

What if there was never an atomic bomb?

July 1, 2016

Great question!

It is hard to imagine a world in which no one developed or researched atomic bombs. It might have happened if there had been no World War II. Let's suppose no one did. For one thing, and leaving out how the second world war would have ended, or whether the Cold War would have stayed as cold as it did, atomic science would not have advanced as quickly as it did. I grew up in the 1960s, a time people called the "Atomic Age." At the time it sounded very modern and exciting. It sounds silly today because along came computers at the same time, and the "Information Age" kind of pushed atoms out of the spotlight.

We might not have nuclear energy, nuclear medicine, or computers, some of which were originally built for nuclear weapons research. Our cars, airplanes, buildings, and bridges might be less safe because a lot of materials are inspected using nuclear materials (X-rays). Our food supply might be less reliable because we use gamma rays to sterilize many foods. The Mars rover Curiosity would not be zapping rocks on Mars without its plutonium power source. The spacecraft New Horizons visited Pluto last summer and the two Voyager spacecraft that are leaving the solar system are still communicating with us because of the same sources of power. The smoke detectors in your house depend on a man-made nuclear element called americium. We might not know that protons and neutrons are made of quarks, and my friend Murray Gell-Mann would not have gotten his Nobel Prize for figuring that out. We might not have discovered the Higgs Boson particle, and who knows how important that might turn out to be.

It is fun to think about. Certainly the history of nuclear weapons has not all been good, but as with anything that is complicated, good comes with bad, and bad comes with good. When we are lucky, the good eventually outweighs the bad.

Thank you for asking interesting questions. I hope you enjoyed your visit!

Gordon McDonough, Museum science evangelist

Occasionally questions are sent in to edu-bsm@lanl.gov or are left in our feedback box in the Museum.

We work to provide answers to these questions on [our blog](#) and the site where we list our [favorite questions and answers](#).

